

## **We developed a new device to support accurate placement of the tunneled cuffed catheter. In this study, we report our first clinical experience of the device” Ohara et al (2018).**

### Abstract:

**INTRODUCTION:** The tunneled cuffed catheter is used in hemodialysis patients for whom an arteriovenous fistula or arteriovenous graft is not suitable or for bridging usage of them. Accurate placement of a tunneled cuffed catheter is necessary for safe hemodialysis, but placement is sometimes difficult because of individual body differences. We developed a new device to support accurate placement of the tunneled cuffed catheter. In this study, we report our first clinical experience of the device.

**METHODS:** We made the device by expanded polytetrafluoroethylene with some special processes. The processes enable it to maintain plasticity and temporary shape in the autoclaved condition. The device is laid on the surface of the patient’s body to mark the root of the catheter with a felt-tipped marker before catheterization. That enables us to know the accurate catheter root and tunneled cuffed catheter exit site on the body surface. Ten patients underwent tunneled cuffed catheter insertion according to the marking.

**CASE DESCRIPTION:** The mean age was  $71.3 \pm 12.8$  years. The tunneled cuffed catheter was safely placed according to the marking in all patients, and all catheter tips were placed in the right atrium. The mean verification tip location difference before and after catheterization was  $0.70 \pm 0.48$  cm. This result indicated that the device could assist in inserting a catheter accurately within an error of 1.18 cm. The tunneled cuffed catheters were patent in all the cases, without replacement and complications until the end of bridging use or during the observation period.

**CONCLUSION:** Our newly developed insertion support device enhances safety and prevents catheter waste during replacement.

### Reference:



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Ohara, T., Sakurama, K., Hiramatsu, S., Karai, T., Sato, T. and Nishina, Y. (2018) New insertion support device assisted the accurate placement of tunneled cuffed catheter: First experience of 10 cases. The Journal of Vascular Access. May 1st. .

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